

Guidelines for environmental auditing — Audit procedures — Auditing of environmental management systems

1 Scope

This International Standard establishes audit procedures that provide for the planning and conduct of an audit of an EMS to determine conformance with EMS audit criteria.

2 Normative reference

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 14001:1996, Environmental Management Systems — Specification with guidance for use.

ISO 14010:1996, Guidelines for environmental auditing — General principles.

ISO 14012:1996, Guidelines for environmental auditing — Qualification criteria for environmental auditors.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 14010 and ISO 14001 apply, together with the following.

NOTE — Terms and definitions in the field of environmental management are given in ISO 14050.

3.1

environmental management system
that part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy [ISO 14001:1996]

3.2

environmental management system audit
systematic and documented verification process of objectively obtaining and evaluating audit evidence to determine whether an organization's environmental management system conforms to the environmental management system audit criteria, and communicating the results of this process to the client

3.3

environmental management system audit criteria
policies, practices, procedures or requirements, such as those covered by ISO 14001 and, if applicable, any additional EMS requirements against which the auditor compares collected audit evidence about the organization's environmental management system

4 Environmental management system audit objectives, roles and responsibilities

4.1 Audit objectives

An EMS audit should have defined objectives; examples of typical objectives are as follows:

- a) to determine conformance of an auditee's EMS with the EMS audit criteria;
- b) to determine whether the auditee's EMS has been properly implemented and maintained;

- c) to identify areas of potential improvement in the auditee's EMS;
- d) to assess the ability of the internal management review process to ensure the continuing suitability and effectiveness of the **EMS**;
- e) to evaluate the EMS of an organization where there is a desire to establish a contractual relationship, such as with a potential supplier or a joint-venture partner.

4.2 Roles, responsibilities and activities

4.2.1 Lead auditor

The lead auditor is responsible for ensuring the efficient and effective conduct and completion of the audit within the audit scope and plan approved by the client.

In addition, responsibilities and activities of the lead auditor should cover

- a) consulting with the client and the auditee, if appropriate, in determining the criteria and scope of the audit;
- b) obtaining relevant background information necessary to meet the objectives of the **audit**, such as details of the auditee's activities, products, services, site and immediate surroundings, and details of previous audits;
- c) determining whether the requirements for an environmental audit as given in ISO 14010 have been met;
- d) forming the audit team giving consideration to potential conflicts of interest, and agreeing on its composition with the client;
- e) directing the activities of the audit team in accordance with the guidelines of ISO 14010 and this International Standard;
- f) preparing the audit plan with appropriate consultation with the client, auditee and audit-team members;
- g) communicating the final audit plan to the audit team, auditee and client;
- h) coordinating the preparation of working documents and detailed procedures, and briefing the audit team;
- i) seeking to resolve any problems that arise during the audit;
- j) recognizing when audit objectives become unattainable and reporting the reasons to the client and the auditee;
- k) representing the audit team in discussions with the auditee, prior to, during and after the audit;
- l) notifying the auditee without delay, of audit findings of critical nonconformities;
- m) reporting to the client on the audit clearly and conclusively within the time agreed with in the audit plan;
- n) making recommendations for improvements to the EMS, if agreed in the scope of the audit.

4.2.2 Auditor

Auditor responsibilities and activities should cover

- a) following the directions of and supporting the lead auditor;
- b) planning and carrying out the assigned task objectively, effectively and efficiently within the scope of the audit;
- c) collecting and analysing relevant and sufficient audit evidence to determine audit findings and reach audit conclusions regarding the EMS;
- d) preparing working documents under the direction of the lead auditor;
- e) documenting individual audit findings;
- 9 safeguarding documents pertaining to the audit and returning such documents as required;
- g) assisting in writing the audit report.

4.2.3 Audit team

The process for selecting audit-team members should ensure that the audit team possesses the overall experience and expertise needed to conduct the audit. Consideration should be given to

- a) qualifications as given, for example, in ISO 14012;
- b) the type of organization, processes, activities or functions being audited;
- c) the number, language skills and expertise of the individual audit-team members;
- d) any potential conflict of interest between the audit-team members and the auditee;
- e) requirements of clients, and certification and accreditation bodies.

The audit team may also include technical experts and auditors-in-training that are acceptable to the client, auditee and lead auditor.

4.2.4 Client

Client responsibilities and activities should cover

- a) determining the need for the audit;
- b) contacting the auditee to obtain its full cooperation and initiating the process;
- c) defining the objectives of the audit;
- d) selecting the lead auditor or auditing organization and, if appropriate, approving the composition of the audit team;
- e) providing appropriate authority and resources to enable the audit to be conducted;
- f) consulting with the lead auditor to determine the scope of the audit;
- g) approving the **EMS** audit criteria;
- h) approving the audit plan;
- i) receiving the audit report and determining its distribution.

4.2.5 Auditee

The responsibilities and activities of the auditee should cover

- a) informing employees about the objectives and scope of the audit as necessary;
- b) providing the facilities needed for the audit team in order to ensure an effective and efficient audit process;
- c) appointing responsible and competent staff to accompany members of the audit team, to act as guides to the site and to ensure that the audit team is aware of health, safety and other appropriate requirements;
- d) providing access to the facilities, personnel, relevant information and records as requested by the auditors;
- e) cooperating with the audit-team to permit the audit objectives to be achieved;
- f) receiving a copy of the audit report unless specifically excluded by the client.

5 Auditing

5.1 Initiating the audit

5.1.1 Audit scope

The audit scope describes the extent and boundaries of the audit in terms of factors such as physical location and organizational activities as well as the manner of reporting. The scope of the audit is determined by the client and the lead auditor. **The** auditee should normally be consulted when determining the scope of the audit. Any subsequent changes to the

audit scope require the agreement of the client and the lead auditor.

The resources committed to the audit should be sufficient to meet its intended scope.

5.1.2 Preliminary document review

At the beginning of the audit process, the lead auditor should review the organization's documentation such as environmental policy statements, programmes, records or manuals for meeting its EMS requirements. In doing so, **use** should be made of all appropriate background information on the auditee's organization. If the documentation is judged to be inadequate to conduct the audit, the client should be informed. Additional resources should not be expended until further instructions have been received from the client.

5.2 Preparing the audit

5.2.1 Audit plan

The audit plan should be designed to be flexible in order to permit changes in emphasis based on information gathered during the audit, and to permit effective **use** of resources.

The plan should, if applicable, include

- a) the audit objectives and scope;
- b) the **audit** criteria;
- c) identification of the auditee's organizational and functional units to be audited;
- d) identification of the functions **and/or** individuals within the auditee's organization having significant direct responsibilities regarding the auditee's EMS;
- e) identification of those elements of the auditee's EMS that are of high audit priority;
- f) the procedures for auditing the auditee's EMS elements as appropriate for the auditee's organization;
- g) the working and reporting languages of the audit;
- h) identification of reference documents;
- i) the expected time and duration for major audit activities;
- j) the dates and places where the audit is to be conducted
- k) identification of audit-team members;
- l) the schedule of meetings to be held with the auditee's management;
- m) confidentiality requirements;

- n) report content and format, expected date of issue and distribution of the audit report;
- o) document retention requirements.

The audit plan should be communicated to the client, the audit-team members and the auditee. The client should review and approve the plan.

If the auditee objects to any provisions in the audit plan, such objections should be made known to the lead auditor. They should be resolved between the lead auditor, the auditee and the client before conducting the audit. Any revised audit plan should be agreed between the parties concerned before or during the audit.

5.2.2 Audit-team assignments

As appropriate, each audit-team member should be assigned specific **EMS** elements, functions, or activities to audit and be instructed on the audit procedure to follow. Such assignments should be made by the lead auditor in consultation with the audit-team members concerned. During the audit, the lead auditor may make changes to the work assignments to ensure the optimal achievement of the audit objectives.

5.2.3 Working documents

The working documents required to facilitate the auditor's investigations may include

- a) forms for documenting supporting audit evidence and audit findings;
- b) procedures and checklists used for evaluating **EMS** elements;
- c) records of meetings.

Working documents should be maintained at least until completion of the audit; those involving confidential or proprietary information should be suitably safeguarded by the audit-team members.

5.3 Conducting the audit

5.3.1 Opening meeting

There should be an opening meeting. The purpose of an opening meeting is to

- a) introduce the members of the audit team to the auditee's management;
- b) review **the** scope, objectives and audit plan and agree on the audit timetable;
- c) provide a short summary of the methods and procedures to be used to conduct the audit;

- d) establish the official communication links between the audit team and the auditee;
- e) confirm that the resources and facilities needed by the audit team are available;
- f) confirm the time and date of the closing meeting;
- g) promote the active participation by the auditee;
- h) review relevant site safety and emergency procedures for the audit team.

5.3.2 Collecting audit evidence

Sufficient audit evidence should be collected to be able to determine whether the auditee's **EMS** conforms to the **EMS** audit criteria.

Audit evidence should be collected through interviews, examination of documents and observation of activities and conditions. Indications of nonconformity to the **EMS** audit criteria should be recorded.

Information gathered through interviews should be verified by acquiring supporting information from independent sources, such as observations, records and results of existing measurements. Non-verifiable statements should be identified as such.

The audit team should examine the basis of relevant sampling programmes **and** the procedures for ensuring effective quality control of sampling **and** measurement processes, used by the auditee **as** part of its **EMS** activities.

5.3.3 Audit findings

The audit team should review all of their audit evidence to determine where the **EMS** does not conform to the **EMS** audit criteria. The audit team should then ensure that audit findings of nonconformity are documented in a clear, concise manner and supported by audit evidence.

Audit findings should be reviewed with the responsible auditee manager with a view to obtaining acknowledgement of the factual basis of all findings of nonconformity.

NOTE — If within the agreed scope, details of audit findings of conformity may also be documented, but with due care to avoid any implication of absolute assurance.

5.3.4 Closing meeting

After completion of the audit evidence collection phase and prior to preparing an audit report, the audit team should hold a meeting with the auditee's management and those responsible for the functions audited. The main purpose of this meeting is to present audit findings to the auditee in such a manner **as**

to obtain their clear understanding and acknowledgment of the factual basis of the audit findings.

Disagreements should be resolved, if possible before the lead auditor issues the **report**. Final decisions on the significance and description of the audit findings ultimately rest with the lead auditor, though the auditee or client may still disagree with these findings.

5.4 Audit reports and document retention

5.4.1 Preparation of audit report

The audit report is prepared under the direction of the lead auditor, who is responsible for its accuracy and completeness. The topics to be addressed in the audit report should be those determined in the audit plan. Any changes desired at the time of preparation of the report should be agreed upon by the parties concerned.

5.4.2 Content of audit report

The audit report should be dated and signed by the lead auditor. It should contain the audit findings and/or a summary thereof with reference to supporting evidence. Subject to agreement between the lead auditor and the client, the audit report may also include the following:

- a) the identification of the organization audited and of the client;
- b) the agreed objectives, scope and plan of the audit;
- c) the agreed criteria, including a list of reference documents against which the audit was conducted;
- d) the period covered by the audit and the date(s) the audit was conducted;
- e) the identification of the auditee's representatives participating in the audit;
- f) the identification of the audit-team members;
- g) a statement of the confidential nature of the contents:

- h) the distribution list for the audit report;
- i) a summary of the audit process including any obstacles encountered;
- j) audit conclusions such as:
 - **EMS** conformance to the EMS audit criteria;
 - whether the system is properly implemented and maintained;
 - whether the internal management review process is able to ensure the continuing suitability and effectiveness of the EMS.

5.4.3 Distribution of audit report

The audit report should be sent to the client by the lead auditor. Distribution of the audit report should be determined by the client in accordance with the audit plan. The auditee should receive a copy of the audit report unless specifically excluded by the client. Additional distribution of the report outside the auditee's organization requires the auditee's permission. Audit reports are the sole property of the client, therefore confidentiality should be respected and appropriately safeguarded by the auditors and all report recipients.

The audit report should be issued within the agreed time period in accordance with the audit plan. If this is not possible, the reasons for the delay should be formally communicated to both the client and the auditee and a revised issue date established.

5.4.4 Document retention

All working documents and draft and final reports pertaining to the audit should be retained by agreement between the client, the lead auditor and the auditee, and in accordance with any applicable requirements.

6 Audit completion

The audit is completed once all the activities defined in the audit plan have been concluded.

Annex A (informative)

Bibliography

- [1] ISO 14050:—¹⁾, *Environmental management — Terms and definitions*

1) To be published.

Guidelines for environmental auditing — Qualification criteria for environmental auditors

1 Scope

This International Standard provides guidance on qualification criteria for environmental auditors and lead auditors and is applicable to both internal and external auditors. Criteria for the selection and composition of audit teams are not included, reference is made to ISO 14011 for information on these subjects.

NOTE — This International Standard has been developed in parallel with the development of International Standards on general principles of environmental auditing (ISO 14010) and on guidelines for auditing of environmental management systems (ISO 14011) specifically. It may require revision, if and when ISO develops detailed guidance on other types of environmental audits.

2 Normative reference

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International standards.

ISO 14001:1996, Environmental management systems — Specification with guidance for use.

ISO 14010:1996, Guidelines for environmental auditing — General principles.

ISO 14011:1996, Guidelines for environmental auditing — Audit procedures — Auditing of environmental *management* systems.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 14010 and ISO 14011 apply, together with the following.

NOTE — Terms and definitions in the field of environmental management are given in ISO 14050.

3.1

environmental auditor
person qualified to perform environmental audits

3.2

lead environmental auditor
person qualified to manage and perform environmental audits

3.3

degree
recognized national or international degree, or equivalent qualification, normally obtained after secondary education, through a minimum of three years formal full-time, or equivalent part-time, study

3.4

secondary education
that part of the national educational system that comes after the primary or elementary stage, but that is completed immediately prior to entrance to a university or similar establishment

4 Education and work experience

Auditors should have completed at least secondary education, or equivalent.

Auditors should have appropriate work experience, which contributes to the development of skills and understanding in some or all of the following:

- a) environmental science and technology;
- b) technical and environmental aspects of facility operations;
- c) relevant requirements of environmental laws, regulations and related documents;
- d) environmental management systems and standards against which audits may be conducted;
- e) audit procedures, processes and techniques.

Auditors who have completed only secondary education or equivalent should have a minimum of five years of appropriate work experience. This criterion may be reduced by satisfactory completion of formal post-secondary full-time or part-time education, the contents of which address some or all of the topics listed in items a) to e). Any reduction should not exceed the total period of such education addressing those topics, and the total reduction should not exceed one year.

Auditors who have obtained a degree should have a minimum of four years appropriate work experience. This criterion may be reduced by satisfactory completion of formal post-secondary full-time or part-time education, the contents of which address some or all of the topics listed in items a) to e). Any reduction should not exceed the total period of such education addressing those topics, and the total reduction should not exceed two years.

5 Auditor training

In addition to the criteria described in clause 4, auditors should have completed both formal training and on-the-job training, to develop competence in carrying out environmental audits. Such training may be provided by the auditor's own organization, or by an external organization.

Competence achieved through training should be demonstrated by suitable means, examples of which are given in annex A

5.1 Formal training

Formal training should address

- a) environmental science and technology;
- b) technical and environmental aspects of facility operations;

- c) relevant requirements of environmental laws, regulations and related documents;
- d) environmental management systems and standards against which audits may be conducted;
- e) audit procedures, processes and techniques.

The criterion for formal training in some or all of these areas may be waived if competence can be demonstrated through accredited examinations or relevant professional qualifications.

5.2 On-the-job training

An auditor should have completed on-the-job training for a total of twenty equivalent workdays of environmental auditing, and for a minimum of four environmental audits. This should include involvement in the entire audit process under the supervision and guidance of the lead auditor. This on-the-job training should occur within a period of not more than three consecutive years.

6 Objective evidence of education, experience and training

Individuals should keep objective evidence of their education, experience and training.

7 Personal attributes and skills

Auditors should possess personal attributes and skills that include, but are not limited to, the following:

- a) competence in clearly expressing concepts and ideas, orally and in writing;
 - b) interpersonal skills conducive to the effective and efficient Performance of the audit, such as diplomacy, tact and the ability to listen;
 - c) the ability to maintain independence and objectivity sufficient to permit the accomplishment of auditor responsibilities;
 - d) skills of personal organization necessary to the effective and efficient performance of the audit;
 - e) the ability to reach sound judgements based on objective evidence;
- 9 the ability to react with sensitivity to the conventions and culture of the country or region in which the audit is performed.

8 Lead auditor

The lead auditor should be an auditor who shows a thorough understanding and application of those personal attributes and skills necessary to ensure effective and efficient management and leadership of the audit process, and who meets either of the following additional criteria.

Either

- Participation in the entire audit process for a total of fifteen additional equivalent workdays of environmental auditing, for a minimum of three additional complete environmental audits; and
- participation as acting lead auditor, under the supervision and guidance of a lead auditor, for at least one of these three audits.

Or

- Demonstration of those attributes and skills to the audit programme management or others, by means such as interviews, observation, references and/or assessments of environmental auditing performance made under quality assurance programmes.

These additional criteria for the lead auditor should be met within a period of not more than three consecutive years.

9 Maintenance of competence

Auditors should maintain their competence by ensuring the currency of their knowledge of

- a) aspects of relevant environmental science and technology;
- b) appropriate technical and environmental aspects of facility operations;
- c) relevant requirements of environmental laws, regulations and related documents;
- d) environmental management systems and related standards against which audits may be conducted;
- e) audit procedures, processes and techniques.

10 Due professional care

Auditors should exercise due professional care, as addressed in ISO 14010, and adhere to an appropriate code of ethics.

11 Language

No auditor should participate unsupported in an audit when unable to communicate effectively in the language necessary for performing his or her responsibilities. When necessary, support should be obtained from a person with the necessary language skills, who is not subject to pressures that could affect the conduct of the audit.

Annex A (informative)

Evaluating the qualifications of environmental auditors

A.1 General

This annex provides guidance for evaluating the qualifications of environmental auditors as defined in this International Standard.

A.2 Evaluation process

This International Standard may be implemented by the establishment and operation of an evaluation process. The process may be internal or external to the auditor's audit programme management. Its purpose is to evaluate the qualifications of environmental auditors.

This process should be directed by an individual or individuals having current understanding and experience of auditing operations.

The process for evaluating the environmental auditor may be subject to a quality assurance programme.

A.3 Evaluations of education, work experience, training and personal attributes

There should be evidence to show that environmental auditors have acquired and maintained the necessary education, work experience, training and personal attributes described in this International Standard. The evaluation process should include some of the following methods:

- a) interviews with candidates;
- b) written and/or oral assessment or other suitable means;
- c) review of candidates' written work;
- d) discussions with former employers, colleagues, etc.;
- e) role playing;
- f) peer observation under actual audit conditions;
- g) reviewing records of education, experience and training as defined in this International Standard;
- h) consideration of professional certifications and qualifications.

Annex B (informative)

Environmental auditor registration body

B.1 General

This annex contains guidance on the development of a body to ensure a consistent approach to the registration of environmental auditors.

The body may act to register environmental auditors directly or accredit other organisations who in turn register environmental auditors according to the criteria contained in this International Standard.

B.2 Auditor registration

If it is appropriate to establish a body for ensuring that environmental auditors are registered in a consistent manner, such a body should be independent and the following guidelines should apply.

The body should establish an evaluation process consistent with that contained in annex A. The process should be subject to a quality assurance programme.

The body should keep a register of environmental auditors who currently meet the criteria specified in this International Standard.